



IBM Power Systems for Oracle Communications Billing and Revenue Management

Powerful, flexible and affordable computing platforms for mission-critical workloads

Delivering new services faster via joint IBM and Oracle planning, testing, and support

Offering secure, reliable performance with on-demand expansion, ideal for today's dynamic Oracle Communications Billing and Revenue Management environments

Delivering outstanding availability and higher quality compute services with PowerHA and AIX

Smarter Computing

Today, we are in the midst of a technology shift driving growth and innovation. Cloud, analytics, social business, and mobile solutions aren't simply remaking computing, they are remaking business. To manage these changes, businesses need to reduce costs, drive faster insights and deliver an exceptional client experience with solutions that are efficient, affordable, and easy to deploy and manage. For over a decade, businesses have relied on Power Systems™ to deliver industry leading solutions to meet their compute intensive requirements. IBM is extending its product innovation for Power Systems to businesses of all sizes with new POWER7+™ processors that help reduce costs, improve efficiency and drive faster insights.



Leadership POWER7+ performance

The POWER7+ processor serves up several new and unique innovations to continue the long history of leadership performance that now serves as the standard for the industry. New with POWER7+ are a larger L3 cache and two built-in accelerators for additional performance, the Active Memory™ Expansion hardware accelerator and the AIX® cryptographic accelerator. L3 cache on POWER7+ processors has been increased to 10 MB per core—2.5 times that found on previous POWER7® processors. Imbedded accelerators for memory compression and AIX file encryption now offload processors from these tasks and improve performance of those functions.

Increased clock speeds provide additional performance gains up to 40% to make the POWER7+ processor a continued workhorse for business-critical Oracle Communications Billing and Revenue Management (BRM) workloads. Applications run faster and are more responsive, resulting in competitive advantages and higher customer satisfaction. In addition, a single system can now run more concurrent compute intensive applications, which can drive utilization even higher and result in infrastructure cost savings.

The IBM and Oracle alliance

Since 1986, Oracle and IBM have been providing customers with compelling joint solutions, combining Oracle's technology and application software with IBM's complementary hardware, software and services solutions. More than 140 000 joint clients benefit from the strength and stability of the Oracle and IBM alliance, which offers technology, applications, services, and hardware solutions that mitigate risk, boost efficiency, and lower total cost of ownership.

IBM is a Diamond Partner in the Oracle Partner Network, delivering the proven combination of industry insight, extensive real-world Oracle applications experience, deep technical skills and high performance servers and storage to create a complete business solution with a defined return on investment. From application selection, purchase and implementation to upgrade and maintenance, we help organizations reduce the total cost of ownership and the complexity of managing their current and future applications environment while building a solid base for business growth.

Powerful systems for Oracle Communications Billing and Revenue Management workloads

IBM has a full range of Power Systems servers, compute nodes and blades, each of which delivers leadership compute intensive performance and scalability in its class. A totally integrated approach to the design, development, and testing of each and every Power server, blade or compute node ensures the resiliency required for today's Oracle Communications BRM deployments.

All Power Systems server models include innovative reliability, availability and serviceability features that help avoid unplanned downtime. And, with Capacity on Demand, Hot-Node Add and Active Memory Expansion—Power Systems enterprise servers ensure businesses can keep Oracle Communications BRM available, even as they add capacity to handle new business demands.

AIX – The future of UNIX

According to IDC, the IBM Power Systems platform with AIX technology is the leader in worldwide UNIX® server revenue share.¹ An open standards-based UNIX operating system, IBM AIX software exploits decades of IBM technology innovation. According to ITIC's 2012-2013 Reliability survey, for the fifth year in a row, IBM AIX servers delivered the highest levels of reliability and uptime among 14 server platforms, including Linux® and other UNIX operating systems.²

AIX technology offers deep integration and optimization with PowerVM™ virtualization, PowerHA® high availability software, and PowerSC™ security and compliance software. The latest AIX 7.1 release features new cluster-aware integration with PowerHA, as well as the ability to run AIX 5.2 and AIX 5.3 Workload Partitions to facilitate application migration and reuse. The AIX operating system is available in three editions for a range of capabilities and flexibility for both mid-sized and large enterprises. AIX 7 and the previous release, AIX 6, are binary compatible with previous versions of AIX including AIX 5L™. This means that applications that ran on earlier versions will continue to run on AIX 7 or 6—guaranteed.³

Oracle Communications Billing and Revenue Management

In a dynamic environment, in which consumer expectations and behavior are changing rapidly, communications, cloud and media service providers are faced with many business challenges. Yet, this environment provides more opportunity for innovation than ever before. To build strong brands and improve profitability, service providers globally rely on Oracle Communications BRM to radically improve time to market for new services, and lower operational costs by managing, monetizing, and maximizing revenue streams for any customer type, service offering, partner relationship, payment method, business model, or geography.

Billing and Revenue Management

Service providers, in order to survive in the face of mounting competition, must also evolve to deliver innovative services that enhance their brand value and the overall customer experience. The communications service provider can no longer simply offer single services, such as fixed voice or Internet connectivity. Customer expectations, both consumers and enterprise alike, have evolved. To turn customers from passive consumers to active advocates of their brand, service providers must offer multi-play services that are personalized, targeted, timely and above all relevant.

To support such innovation, Oracle Communications BRM provides a fully convergent charging and billing system to manage the entire revenue management lifecycle. From a single modular platform BRM supports charging and rating for any service, any network, any payment method, any geography and supports all customer and partner types. The solution is built with adherence to industry standards to enable application extensions for specific communications capabilities, and with pre-built integrations, through Oracle Application Integration Architecture (AIA), to key Oracle business applications such as Oracle's Siebel CRM and Oracle E-Business Suite. Further it is architected for extreme real-time performance and high-availability to satisfy the most demanding service provider needs.

Oracle Communications Billing and Revenue Management architecture

The Oracle Communications BRM deployment architecture is designed to be flexible, scalable and capable of meeting the performance and availability requirements of the largest communications service providers. IBM Power Systems servers offer unique features that enhance this flexible and scalable design. Power Systems servers can be deployed as Oracle Communications BRM layer servers and as robust data management layer servers. And by leveraging the advanced virtualization features of the Power Systems servers, these application layers can be deployed within logical partitions of a single Power Systems platform.

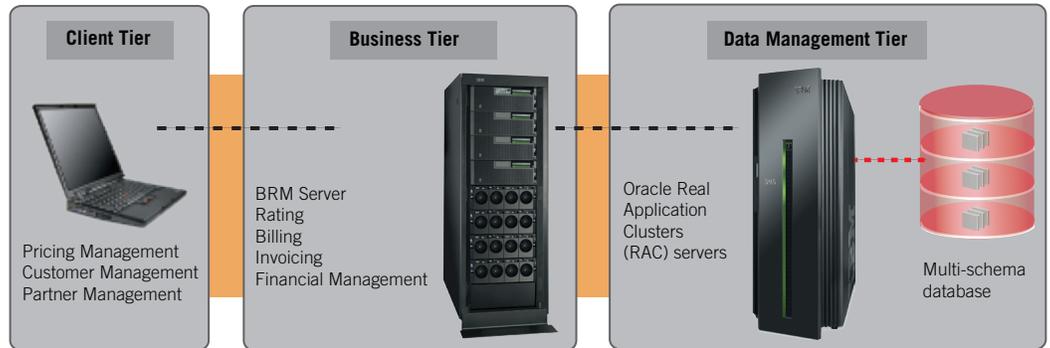


Figure 1. Oracle Communications Billing and Revenue Management architecture

Power Systems Software

IBM offers a full range of IBM Power Systems Software™ technologies that enable businesses using Oracle Communications BRM to fully exploit Power Systems servers. Designed and optimized specifically for Power Systems, IBM's offerings include IBM PowerVM virtualization software, IBM PowerHA software for high availability, PowerSC software for security and compliance, and IBM Systems Director with IBM Active Energy Manager for platform and energy management. IBM's integrated approach to developing the systems and software together enables high system utilization, high resiliency and simplified management.

PowerVM virtualization

PowerVM represents the family of technologies, capabilities and offerings that deliver industry-leading virtualization on IBM POWER processor-based systems. PowerVM dynamically adjusts system resources to partitions based on workload demands, enabling a dynamic Oracle Communications BRM infrastructure that can dramatically increase system utilization and reduce costs.

PowerVM Standard Edition includes Micro-Partitioning® and Virtual I/O Server (VIOS) capabilities, which are designed to allow businesses to increase system utilization, while helping to ensure applications continue to get the resources they need. VIOS allows for the sharing of disk and optical devices as well as communications and Fibre Channel adapters to help drive down complexity and systems/administrative expenses. Also included is support for Multiple Shared Processor Pools, which allows for automatic, non-disruptive balancing of processing power between partitions assigned to the shared pools, and Shared Dedicated Capacity, which helps optimize use of processor cycles.

PowerVM Enterprise Edition includes all the features of Standard Edition plus Live Partition Mobility (LPM) and PowerVM Active Memory Sharing. LPM allows a partition to be relocated from one server to another with virtually no impact to the applications running inside the partition. LPM is designed to enable servers to work together to help optimize system utilization and energy savings, improve application availability, balance critical workloads across multiple systems and respond to ever-changing business demands. PowerVM Active Memory Sharing is an advanced memory virtualization technology that intelligently flows memory from one partition to another for increased utilization and flexibility of memory usage. With this memory virtualization enhancement IBM i, AIX, and Linux partitions can share a pool of memory and have PowerVM automatically allocate the memory based on the workload demands of each partition.

PowerHA – Resiliency without downtime

Smarter computing by nature requires businesses to raise their services delivery levels, fueling 24x7 high availability demands for their applications and IT infrastructure. PowerHA SystemMirror for AIX and IBM i is a high availability clustering solution for both data center and multisite resiliency. PowerHA is designed to protect Oracle Communications BRM business applications from outages of virtually any kind, helping ensure round-the-clock business operations.

The best high availability and disaster recovery plans involve an integrated approach to resiliency spanning across applications, operating systems, servers and storage. That's why PowerHA software offers deep integration and optimization between PowerHA SystemMirror software and AIX and IBM i.

PowerSC – Security and compliance: trusted and automated

Security and compliance are intrinsic to today's business processes, development and daily operations and should be factored in to the initial design of any IT or critical infrastructure solution, not bolted on after the fact. By building security and compliance into the overall design of a system, an application or a cloud delivery model, businesses are better able to create agile solutions that reduce risk while cost-effectively addressing audit requirements. POWER7+ systems architecture has security designed into each layer of the stack from the hardware to the firmware and through the systems software. PowerSC, a key security and compliance offering, is integrated with this stack to lower the cost of maintaining compliance and security for Oracle Communications BRM clients using Power Systems servers.



IBM System Storage

Disk and tape storage are critical elements of an Oracle Communications BRM environment. Designed with growth, reliability, and availability in mind, IBM System Storage® products, such as the IBM DS8000®, IBM XIV® Storage System, and IBM Storwize® V7000 provide a continuum of storage solutions.

IBM also offers a compelling market-leading array of tape storage products to help protect Oracle application data including support for deduplication with virtual tape appliances, enterprise tape libraries, and tape drives. With IBM Tivoli® Storage Manager for Databases, these tape products are designed to provide low-cost, superior performance, high capacity and unattended backup from entry-level to enterprise server environments.

Sizing and capacity planning for Oracle Communications Billing and Revenue Management on a Power System server

Oracle has an established sizing-estimation process for the Oracle Communications BRM applications based on performance tests and experience with clients who are using the applications. IBM can help facilitate the sizing process and will work closely with Oracle to create a properly designed architecture. For more information about requesting a sizing estimate for an Oracle Communications BRM deployment, please visit:

ibm.com/erp/sizing

For more information

To explore other Power Systems and Oracle solutions or to find out more about other joint solutions from IBM and Oracle, please contact an IBM sales representative at 1-866-426-9989, or visit us at:

ibm.com/solutions/oracle

ibmandoracle.com

For more information about IBM Power Systems and Oracle software product support, visit:

ibm.com/solutions/oracle/us/en/index/powersystems.html

For more information about the IBM Power Systems family, visit:

ibm.com/powersystems

For more information about Oracle Communications Billing and Revenue Management, visit:

www.oracle.com/us/products/applications/communications/billing-revenue-management/overview/index.html

¹ IDC Quarterly Server Tracker Q412 release, February 2013

² ITIC 2013 Global Server Reliability Report:

itic-corp.com/blog/2013/02/ibm-dell-fujitsu-stratus-get-highest-marks-in-itic-reliability-survey/

³ More information on the binary compatibility of AIX can be found at:

ibm.com/systems/power/software/aix/compatibility/guarantee/index.html



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